CLAIMS

What is claimed is:

1 1.   A platform adaptation method comprising:

2   executing a workload on a platform;

3   monitoring the platform for one or more performance events associated

4 with the platform executing the workload;

5   determining which if any, of one or more pre-established sets of

6 configuration parameter values should be selected for application to configure

7 the platform, based at least in part on the one or more performance events

8 observed during said monitoring; and

9   if one of the one or more pre-established sets of configuration parameter

10 values is determined to be selected and applied to configure the platform,

11 selecting and applying the pre-established set of configuration parameter values

12 to configure the platform.

1 2.   The method of claim 1, wherein said monitoring comprises monitoring at

2 least a selected one of a processor performance counter, an OS performance

3 counter, and a chipset performance counter, while the platform executes the

4 workload.

1 3.   The method of claim 1, wherein

2   the one or more pre-established sets of configuration parameter values

3 comprises one or more sets of configuration parameter values pre-selected for

4 the platform to execute one or more corresponding reference workloads; and

5 said determining comprises determining whether the workload resembles

6 one of the one or more corresponding reference workloads, based at least in part

7 on the one or more performance events observed during said monitoring.

1 4. The method of claim 3, wherein said determining of whether the workload

2 resembles one of the one or more corresponding reference workloads comprises

3 determining one or more correlation metrics between the workload and the

4 one or more reference workloads, based on the one or more performance events

5 observed during said monitoring, and during one or more prior executions of the

6 one or more reference workloads; and

7 determining whether at least one of the determined one or more

8 correlation metrics exceeds a correlation threshold.

1 5. The method of claim 3, wherein said determining further comprises

2 identifying for selection, the set of one or more configuration parameter values

3 pre-selected for the platform to execute a reference workload, with which the

4 workload is determined to resemble.

1 6. The method of claim 3, wherein the one or more reference workloads

2 comprise at least a selected one of a route look-up workload, a OSPF workload,

3 a JPEG codec workload, a 3DES encryption/decryption workload, an AES

4 encryption/decryption workload, an IP packet forwarding workload, and a H.323

5 speech codec workload.

1 7. The method of claim 3, wherein the method further comprises pre-

2 selecting said one or more sets of configuration parameter values for the platform

3 to execute the one or more corresponding reference workloads.

1　8.　The method of claim 1, wherein said determining comprises

2　　　generating an index based at least in part on the one or more performance

3　events observed during said monitoring; and

4　　　selecting one of the one or more pre-established sets of configuration

5　parameter values, based at least in part on the generated index.

1　9.　The method of claim 8, wherein said generating comprises evaluating an

2　index function in view of the one or more performance events observed during

3　said monitoring.

1　10.　The method of claim 1, wherein the one or more configuration parameter

2　values comprise one or more of processor configuration parameter values, OS

3　configuration parameter values, and chipset configuration parameter values.

1　11.　In a system, a method of operation comprising:

2　　　determining whether a workload executed or being executed by a platform

3　resembles a reference workload, based at least in part on one or more

4　performance events observed from monitoring the platform's execution of the

5　workload; and

6　　　if the workload is determined to resemble the reference workload,

7　performing a selected one of

8　　　　selecting a set of one or more configuration parameter values pre-

9　　　　　selected for the platform to execute the resembled reference

10　　　　　workload, and

11　　　　providing information about the determined resembled reference

12　　　　　workload to facilitate the selection of the set of one or more

13   configuration parameter values pre-selected for the platform to

14   execute the determined resembled reference workload.

1   12.   The method of claim 11, wherein the one or more reference workloads

2   comprise at least a selected one of a route look-up workload, a OSPF workload,

3   a JPEG codec workload, a 3DES encryption/decryption workload, an AES

4   encryption/decryption workload, an IP packet forwarding workload, a H.323

5   speech codec workload.

1   13.   The method of claim 11, wherein said determining comprises

2   determining a correlation metric between the workload and the reference

3   workload, based on the one or more performance events observed during said

4   monitoring, and observed during at least one prior execution of the reference

5   workload; and

6   determining whether the correlation metric exceeds a correlation

7   threshold.

1   14.   The method of claim 11, wherein the method further comprises performing

2   a selected one of

3   receiving the one or more performance events observed during said

4   monitoring; and

5   said monitoring.

1   15.   The method of claim 11, wherein

2   the system comprises the platform; and

3   the method further comprises executing the workload, and performing said

4   monitoring.

1   16.   The method of claim 11, wherein

2   said performing comprises selecting a set of one or more configuration

3   parameter values pre-selected for the platform to execute the determined

4   resembled reference workload; and

5   the method further comprises performing a selected one of

6   applying the selected set of one or more configuration parameter

7   values to configure the platform, and

8   providing information about the selected set of one or more

9   configuration parameter values to facilitate application of the

10   selected set of one or more configuration parameter values to

11   configure the platform.

1   17.   In a system, a method of operation comprising:

2   generating an index based at least in part on one or more performance

3   events observed in associated with a platform's execution of a workload; and

4   selecting one of one or more pre-established sets of configuration

5   parameter values, based at least in part on the generated index, for application to

6   configure the platform.

1   18.   The method of claim 17, wherein said generating comprises evaluating an

2   index function in view of the one or more performance events observed.

1   19.   The method of claim 17, wherein the method further comprises performing

2   a selected one of

3   receiving the one or more performance events observed; and

4   monitoring said execution of the workload by the platform.

1   20.   The method of claim 17, wherein the method further comprises performing

2   a selected one of

3   providing information about the selected set of one or more configuration

4   parameter values to facilitate application of the selected set of one or

5   more configuration parameter values to configure the platform; and

6   applying the selected set of one or more configuration parameter values to

7   configure the platform, the platform being a part of the system.

1   21.   An apparatus comprising

2   storage medium having stored therein programming instructions designed

3   to enable the apparatus to

4   determine whether a workload executed or being executed by a

5   platform sufficiently resembles a reference workload, based at

6   least in part on one or more performance events observed from

7   monitoring the platform's execution of the workload, and

8   if the workload is determined to sufficiently resemble the reference

9   workload, perform at least a selected one of

10   selecting a set of one or more configuration parameter values

11   pre-selected for the platform to execute the determined

12   resembled reference workload, and

13   providing information about the determined resembled reference

14   workload to facilitate the selection of the set of one or more

15   configuration parameter values pre-selected for the platform

16   to execute the determined resembled reference workload;

17   and

18   at least one processor coupled to the storage medium to execute the

19   programming instructions.

1   22.   The apparatus of claim 21, wherein said programming instructions are

2   designed to enable the apparatus to perform said determine by

3   determining a plurality of correlation metrics between the workload and the

4   reference workload, based on the one or more performance events observed

5   during said monitoring, observed during at least one prior execution of the

6   reference workload; and

7   determining whether at least one of determined correlation metrics

8   exceeds a correlation threshold.

1   23.   The apparatus of claim 21, wherein the programming instructions are

2   further designed to perform a selected one of

3   receiving the one or more performance events observed during said

4   monitoring;

5   monitoring the execution of the workload to observe the one or more

6   performance events;

7   providing information about the selected set of one or more configuration

8   parameter values to facilitate application of the selected set of one or more

9   configuration parameter values to configure the platform; and

10   applying the selected set of one or more configuration parameter values to

11   configure the platform.

1   24.   An apparatus comprising:

2   storage medium having stored therein programming instructions designed

3   to enable the apparatus to

4   generate an index based at least in part on one or more performance

5   events observed in associated with a platform's execution of a

6   workload; and

7   select one of one or more pre-established sets of configuration

8   parameter values, based at least in part on the generated index, for

9   application to configure the platform; and

10   at least a processor coupled to storage medium to execute the

11   programming instructions.

1   25.   The apparatus of claim 24, wherein said generating comprises evaluating

2   an index function in view of the one or more performance events observed.

1   26.   The apparatus of claim 25, wherein the programming instructions are

2   further designed to enable the apparatus to perform a selected one of

3   receiving the one or more performance events observed;

4   monitoring said execution of the workload by the platform;

5   providing information about the selected set of one or more configuration

6   parameter values to facilitate application of the selected set of one or

7   more configuration parameter values to configure the platform; and

8   applying the selected set of one or more configuration parameter values to

9   configure the platform, the platform being a part of the system.

1   27.   A system comprising:

2   a platform to execute a workload;

3   a monitor, either coupled to or an integral part of the platform, to observe

4   one or more performance events associated with the platform's execution of the

5   workload; and

6   an analyzer coupled to the monitor to receive the one or more

7   performance events observed, and in response, at least contribute to selecting if

8   possible, a set of one or more configuration parameters values for application to

9   configure the platform, based at least in part on the one or more performance

10   events observed.

1   28.   The system of claim 27,wherein the analyzer is adapted to at least

2   contribute by determining whether the workload resembles one of one or more

3   reference workloads, based at least in part on the received one or more

4   performance events observed, the resembled reference workload being

5   employed to facilitate said selection of one of the one or more configuration

6   parameter values.

1   29.   The system of claim 27,wherein the analyzer is adapted to at least

2   contribute by generating an index to facilitate said selection of one of the one or

3   more configuration parameter values, based at least in part on the received one

4   or more performance events observed.

1   30.   The system of claim 27, wherein

2   the platform comprises a first networking interface; and

3   the system further comprises a computing device hosting the analyzer, the

4   computing device including a second networking interface to couple the

5   computing device with the platform via a network connection.

1   31.   An article of manufacture comprising:

2   a machine readable medium; and

3   a plurality of programming instructions on the machine readable medium,

4   designed to enable an apparatus to observe one or more performance events

5   associated with a platform's execution of a workload or receive the one or more

6   performance events observed, and to at least contribute in selection of one or

7   more configuration parameters values for application to configure the platform,

8   based at least in part on the one or more performance events observed.

1   32.   The article of claim 31, wherein the programming instructions are

2   designed to enable the apparatus to contribute by determining whether the

3   workload resembles one of one or more reference workloads, based at least in

4   part on the received one or more performance events observed, the resembled

5   reference workload being employed to facilitate said selection of one of the one

6   or more configuration parameter values

1   33.   The article of claim 31, wherein the programming instructions are

2   designed to enable the apparatus to contribute by generating an index to

3   facilitate said selection of one of the one or more configuration parameter values,

4   based at least in part on the received observed one or more performance events.